Achieving a Sustainable Air Program Through P2

DOD Air Program Managers Roundtable

Atlanta, GA

March 1, 2005

Objectives

- Expose participants to concept that living systems are in decline
- Introduce concept of integrated P2 and air quality program through EMS
- Introduce sustainability concepts into air program management

Outline

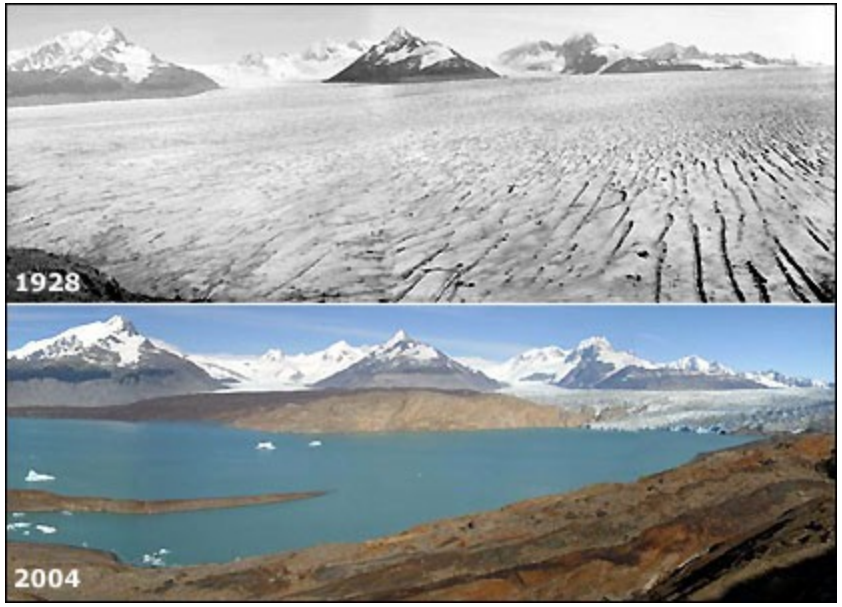
- The Natural State of Living Systems
- Evolution of P2
- Sustainability Concepts
- Case Study
- Summary

The State of Living Systems

- Climate Change
  - Global warming effects (carbon dioxide and methane)
  - Declining ground level air quality reduces quality of life for both sensitive and healthy populations
  - Mass of Antarctic ice sheet has been reduced 40%
  - 60% of the worlds reefs are seriously threatened
  - Water scarcity around the globe correlates with military conflict zones 90% of the time
  - Population projected to increase 40% to 9 Billion by 2040 - an average of 1 Billion people every 10 years

Global Warming Trends

Upsala Glacier, Argentina

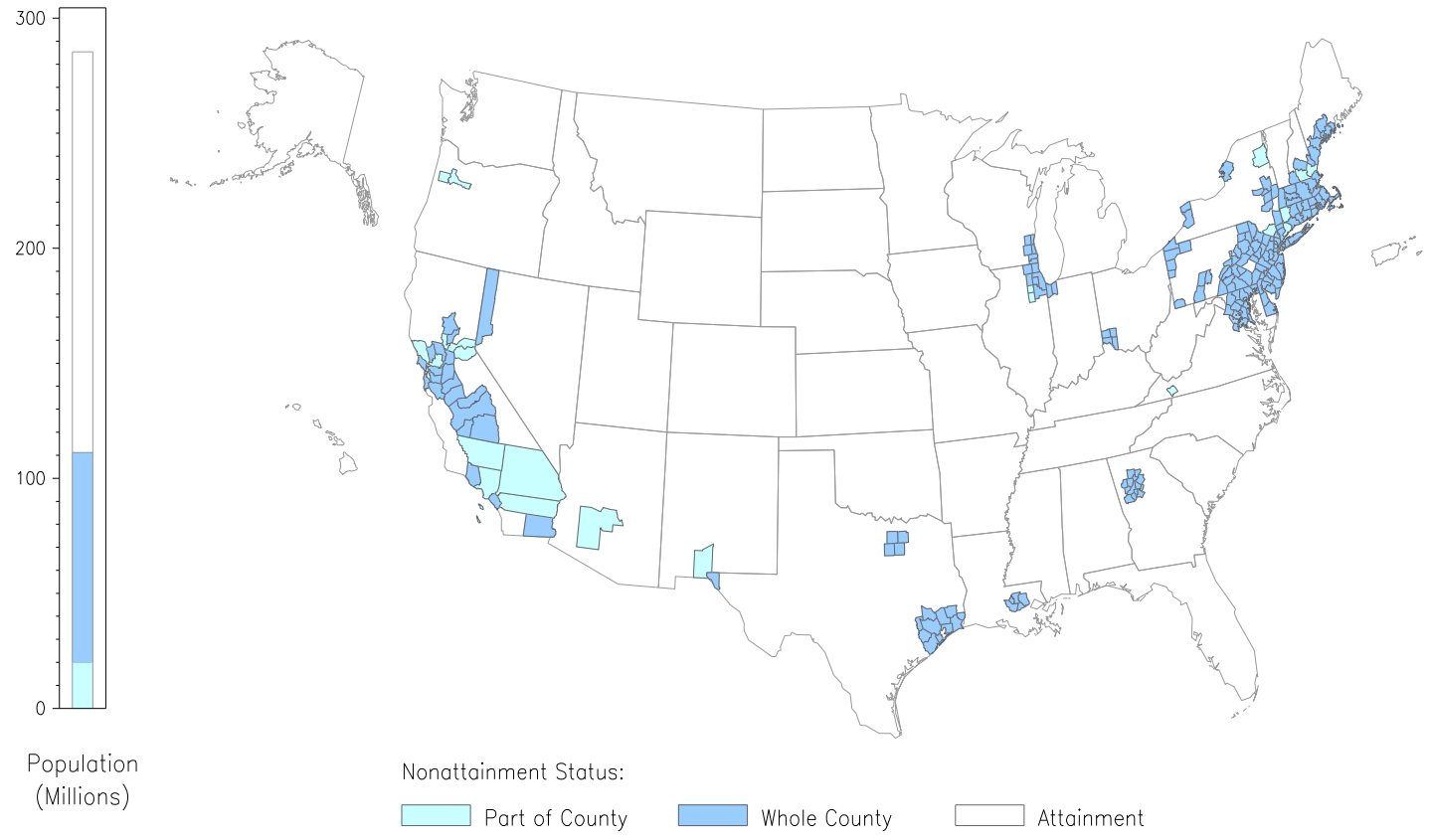


Mt. Hood, Oregon

Nonattainment Areas Map – Ozone (1–hour)

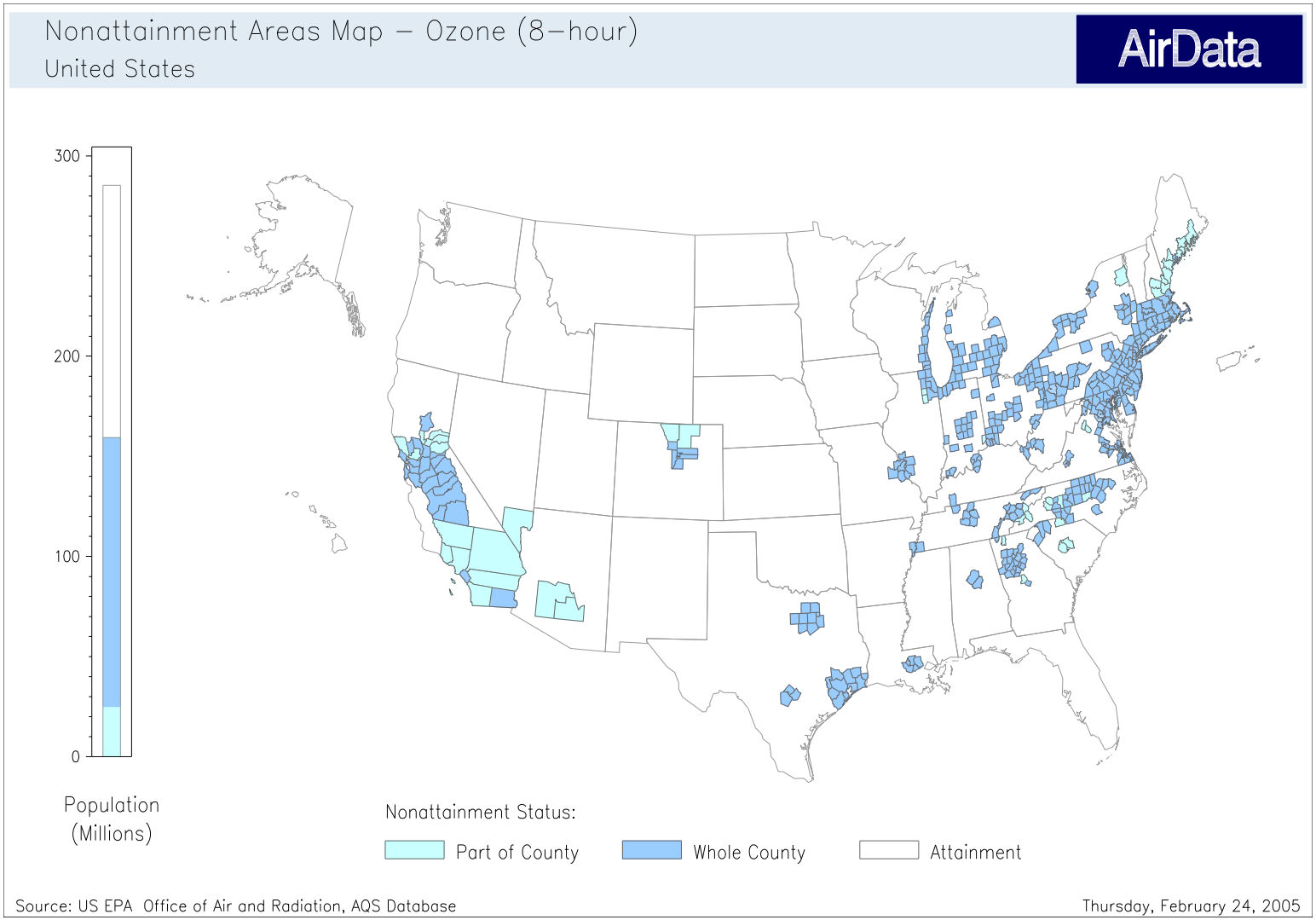
United States

AirData



Source: US EPA Office of Air and Radiation, AQS Database

Thursday, February 24, 2005


Nonattainment Areas Map – Ozone (8-hour)
United States
AirData
300
200
100
0
Population
(Millions)
Nonattainment Status:
Part of County
Whole County
Attainment
Source: US EPA Office of Air and Radiation, AQS Database
Thursday, February 24, 2005

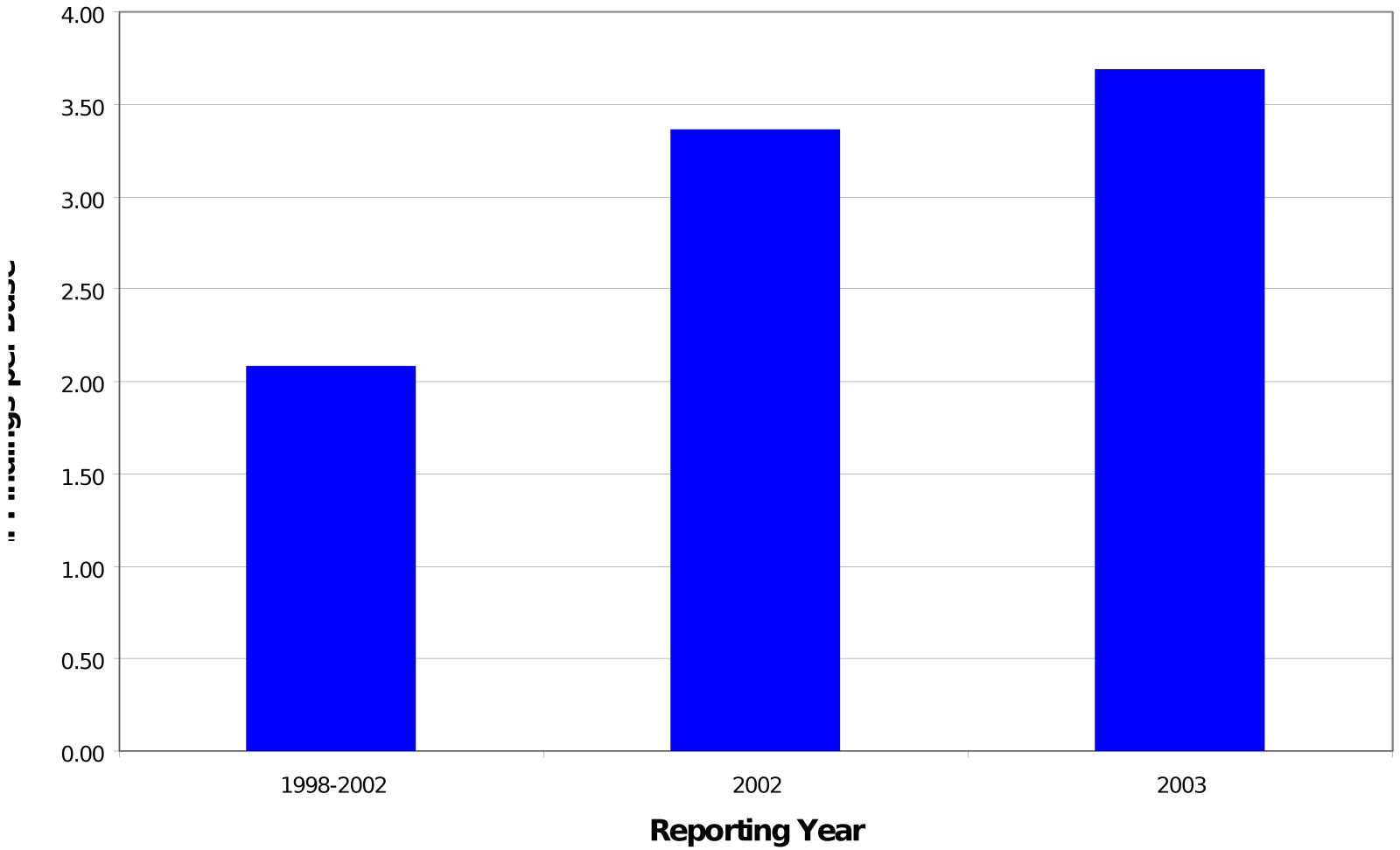
Preserving our Atmosphere

- Legislation (e.g. CAA, Kyoto protocol)
  - Establishes “acceptable” exposure limits for pollution
  - Establishes technological controls for certain industries (MACT, LAER, BACT)
  - Restricts emissions of certain pollutants (permits)
- Pollution Prevention
  - Voluntary reduction in emission of certain pollutants
  - Innovation can/should support the mission

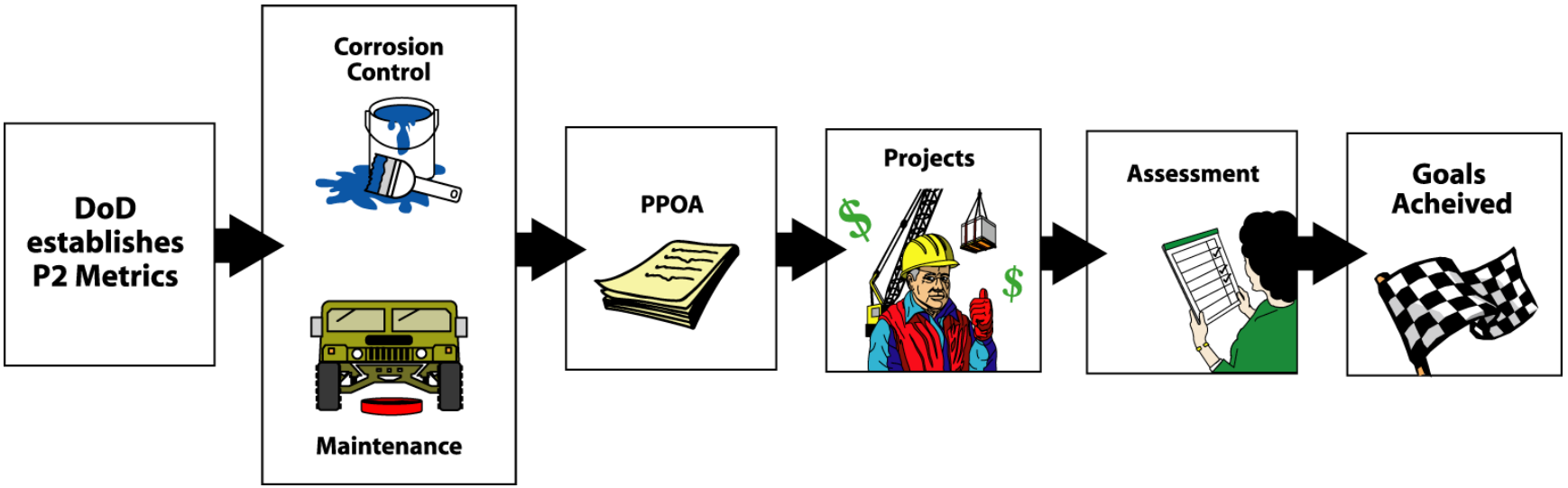
EPA Enforcement Actions 2003

	Criminal Penalties	Civil Penalties	Administrative Penalties	% of Total Amount
CAA	$25,315,683	$55,154,441	$4,006,848	38.40%
CWA	$38,216,603	$17,984,220	$5,353,442	28%
RCRA	$1,611,479	$25,981,539	$5,554,194	15.10%
CERCLA	$16,742,004	$2,220,000	$143,170	8.70%
Other	$12,331,673	$0	$0	5.60%
EPCRA	$15,000	$12,957	$3,515,780	1.60%
TSCA	$357,336	$0	$3,025,983	1.50%
FIFRA	$128,505	$0	$1,600,081	0.80%

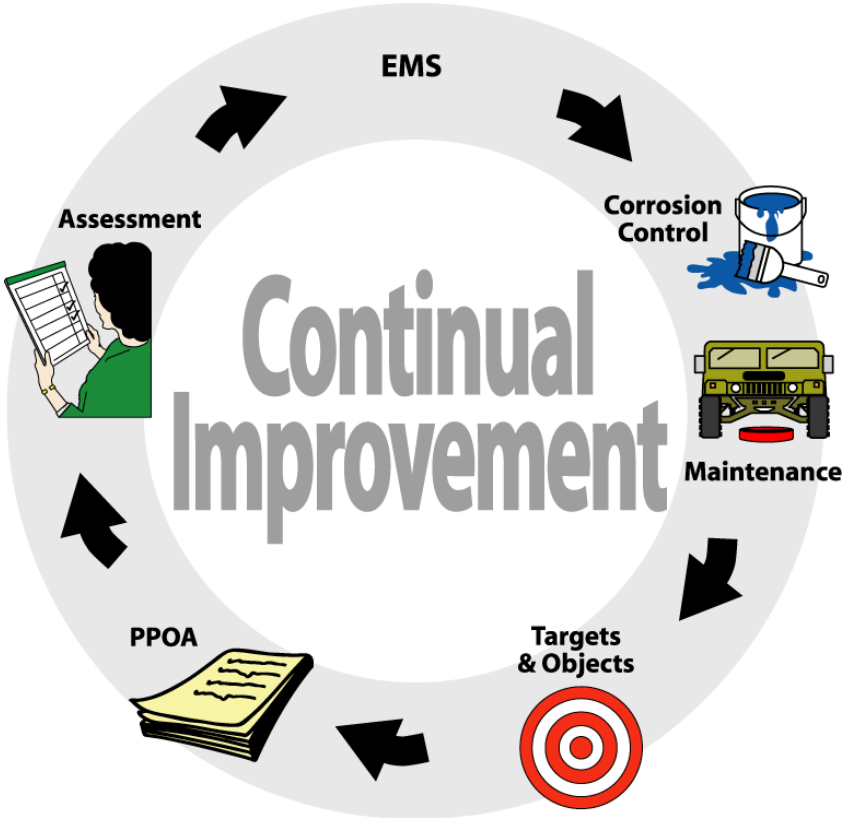
ESOHCAMP Air Protocol Findings as Reported to AFCEE



Traditional P2



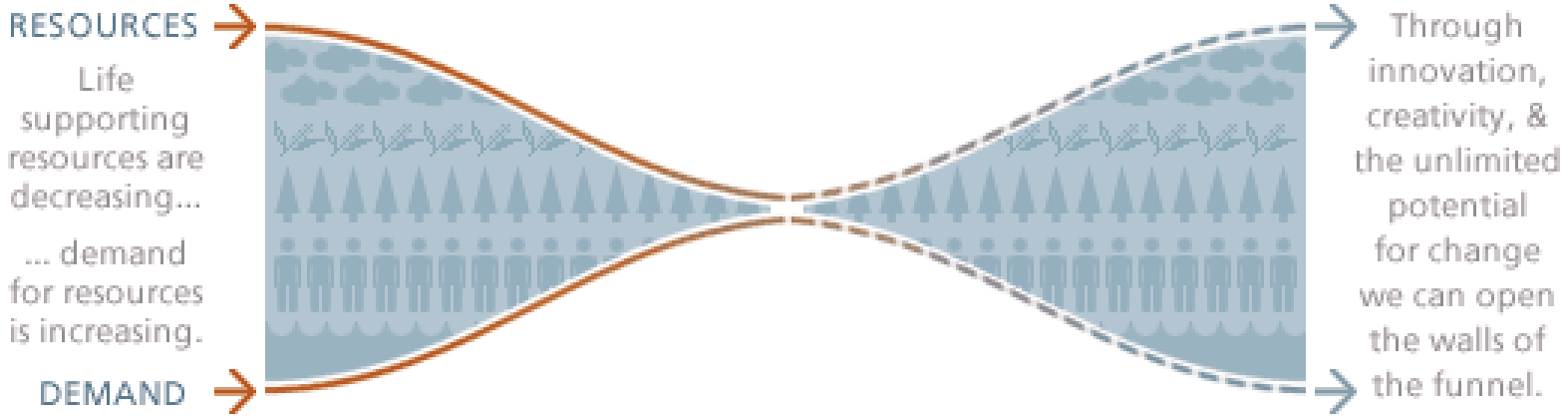
Contemporary P2



Sustainable Management Systems

- The system conditions for a Natural Step approach to sustainability - Nature is not subject to systematically increasing:
  - Concentrations of substances extracted from the earth’s crust
  - Concentrations of synthetic substances
  - Physical degradation of its resources
  - In a sustainable society human needs are met worldwide

Sustainability Concept


RESOURCES
Life supporting resources are decreasing...
... demand for resources is increasing.
DEMAND
Through innovation, creativity, & the unlimited potential for change we can open the walls of the funnel.

Sustainability in the DoD

- Triple bottom line
  - Organization
  - Environment
  - Society
- Army is embracing sustainability
  - Ft Bragg is pioneering sustainability in DoD
    - Sustainable Sandhills
- Air Combat Command
  - P2/EMS study addressing the triple bottom line

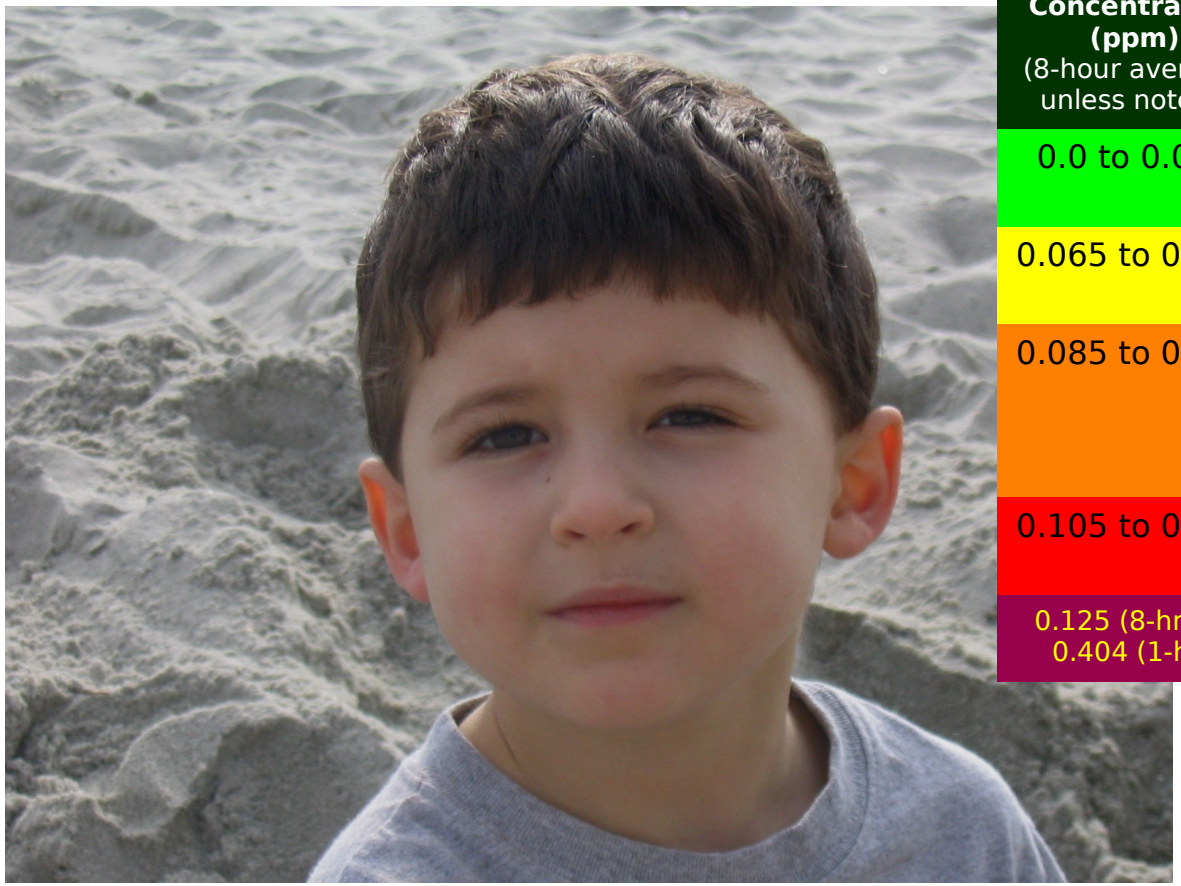
Ft. Bragg Sustainable Air Quality

- Desired End States
  - Children play outside EVERYDAY
  - Regional transit system
  - Preserve agricultural and open space zones
- Air Quality Goals
  - Develop effective regional commuting options by 2015
  - Reduce the amount of gasoline and diesel used by non-tactical vehicles by 70% in 2015 and 99% by 2025

Summary

- Integrate P2 with your air program under an EMS
- Share/publish P2 stories and innovations
- Learn more about your EMS program
- Find creative funding opportunities

Sustainable Future



Ozone Concentration (ppm) (8-hour average, unless noted)	**Air Quality Index Values**	**Air Quality Descriptor**
0.0 to 0.064	0 to 50	Good
0.065 to 0.084	51 to 100	Moderate
0.085 to 0.104	101 to 150	Unhealthy for Sensitive Groups
0.105 to 0.124	151 to 200	Unhealthy
0.125 (8-hr.) to 0.404 (1-hr.)	201 to 300	Very Unhealthy

Presenter

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